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immediately after sudden elevation of temperature; their function is to help diminish the harmful effects of high temperature.

heterologous p., SYN foreign p.

homologous p.'s, p.'s having a very similar primary, secondary, and tertiary structure.

immune p., SYN antibody.

integral p.'s, p.'s that cannot be easily separated from a biomembrane. SYN intrinsic p.'s.

intrinsic p.'s, SYN integral p.'s.

iron-sulfur p.'s, p.'s containing one or more iron atoms that are linked to sulfur bridges and/or sulfur of cysteinyl residues; *e.g.,* certain p.'s in the electron transport pathway.

p. kinases, a class of enzymes that phosphorylates other p.'s; many of these kinases are responsive to other effectors (*e.g.,* cAMP, cGMP, insulin, epidermal growth factor, calcium and calmodulin, calcium and phospholipids, etc.).

M p., (1) SYN Streptococcus M *antigen.* SEE ALSO β-hemolytic *streptococci,* under *streptococcus, Streptococcus pneumoniae.* **(2)** SYN monoclonal *immunoglobulin.*

macrophage inflammatory p. (mak'rō-fāj in'flam-mă-to-rē), a member of the chemokine family that is chemotactic for certain lymphocyte subsets such as T cytotoxic cells.

matrix Gla p. (MGP), a calcium binding p.

microtubule-associated p.'s (MAPs), p.'s that have a specific association with α- and/or β-tubulin; *e.g.,* tau, MAP1, MAP2; several have been found in the plaques observed in Alzheimer's disease.

mild p. protein, a complex prepared by the reaction of p. oxide with either gelatin or serum albumin. Black shiny crystals liberate p. and it was formerly widely used as a topical anti-infective on mucous membranes. Contains from 19 to 25% p., only a small fraction of which is ionizable. Can produce black or brown pigmentation due to deposition of reduced p. in the tissues. SYN argyrol, silvol.

monoclonal p., SYN monoclonal *immunoglobulin.*

monocyte chemoattractant p.-1 (MCP-1) (mon'ō-sīt kē'mō- ă-trak'tănt), secreted by endothelial cells of a blood vessel wall; it induces extravasation of monocytes.

muscle p.'s, p.'s present in muscle.

myelin p. A1, SYN encephalithogenic p.

myeloblastic p., SEE human leukemia-associated *antigens,* under *antigen.*

native p., the concept of a p. in its natural state, in the cell, unaltered by heat, chemicals, enzyme action, or the exigencies of extraction.

neutrophil activating p. (NAP), SYN interleukin-8.

non-heme iron p., any p. containing iron but not any heme iron; *e.g.,* NADH dehydrogenase.

nonspecific p., a p. substance that elicits a response not mediated by specific antigen-antibody reaction.

odorant binding p., p.'s in nasal mucus that bind lipophilic odor-producing molecules and transfer them to the olfactory receptors. Similar p.'s may mediate taste.

parathyroid hormonelike p. (PLP), a 140 amino acid p. secreted by some cancer cells; it causes hypercalcemia.

pathological p.'s, SEE paraprotein.

peripheral p.'s, p.'s that can be easily removed from a biomembrane (*e.g.,* by altering the pH or the ionic strength). SYN extrinsic p.'s.

phenylthiocarbamoyl p., formed by the reaction of phenylisothiocyanate with a terminal α-amino group of a peptide or p. SEE ALSO phenylisothiocyanate, phenylthiohydantoin. SYN PhNCS p., PTC p.

PhNCS p., SYN phenylthiocarbamoyl p.

p. phosphatases, a class of enzymes that catalyze the dephosphorylation of specific phosphorylated p.'s.

placenta p., SYN human placental *lactogen.*

plasma p.'s, dissolved p.'s (more than 100) of blood plasma, mainly albumins and globulins (normally 6 to 8 g/100 ml); they hold fluid in blood vessels by osmosis and include antibodies and blood-clotting p.'s. SYN serum p.'s.

prion p., small, infectious proteinaceous particle, of non-nucleic acid composition because of its resistance to nucleases; the causative agent, either on a sporadic, genetic, or infectious basis, of six neurodegenerative diseases in animals, and four in humans; the latter include the spongiform encephalopathies of kuru. Creutzfeldt-Jakob disease, Gerstmann-Straussler-Scheinker syndrome and fatal familial insomnia. The gene encoding for the PrP is found on chromosome 20. SYN prion.

protective p., SYN antibody.

PTC p., SYN phenylthiocarbamoyl p.

purified placental p., SYN human placental *lactogen.*

receptor p., an intracellular p. (or p. fraction) that has a high specific affinity for binding a known stimulus to cellular activity, such as a steroid hormone or adenosine 3',5'-cyclic phosphate.

retinol-binding p., a plasma p. that binds and transports retinol.

S p., the major fragment produced from pancreatic ribonuclease by the limited action of subtilisin, which cleaves the ribonuclease between residues 20 and 21; the smaller fragment (residues 1-20) is S peptide.

p. S, a vitamin K-dependent antithrombotic p. that functions as a cofactor with activated p. C.

serum p.'s, SYN plasma p.'s.

simple p., p. that yields only α-amino acids or their derivatives by hydrolysis; *e.g.,* albumins, globulins, glutelins, prolamines, albuminoids, histones, protamines. Cf. conjugated p.

stimulatory p. 1 (SP1), an RNA polymerase II transcription factor in vertebrates; binds to DNA in regions rich in G and C residues; a general promoter-binding factor necessary for the activation of many genes.

strong silver p., SEE strong *silver* protein.

structure p.'s, p.'s whose role is for structure and support in tissue and within the cell; *e.g.,* the collagens.

Tamm-Horsfall p., SEE Tamm-Horsfall *mucoprotein.*

thyroxine-binding p. (TBP), (1) SYN thyroxine-binding *globulin.* **(2)** SYN thyroxine-binding *prealbumin.*

unwinding p.'s, enzymes that uncoil the DNA allowing recombination events to occur.

vitamin D-binding p. (DBP), a plasma p. that binds vitamin D.

whey p., the soluble p. contained in the whey of milk clotted by rennin; *e.g.,* lactoglobulin, α-lactalbumin, lactoferrin.

Z-p., a fatty acid-binding protein that participates in the intracellular movement of fatty acids. SYN fatty acid binding p.

pro·tein·a·ceous (prō'tē-nā'shŭs, prō'tē-i-nā'shŭs). Resembling a protein; possessing, to some degree, the physicochemical properties characteristic of proteins.

pro·tein·ase. SYN endopeptidase.

pro·tein hy·drol·y·sate. A sterile solution of amino acids and soft chain peptides prepared from a suitable protein by acid or enzymatic hydrolysis; used intravenously for the maintenance of positive nitrogen balance in severe illness, and after surgery involving the alimentary tract; or used orally in the diets of infants allergic to milk or as a supplement when high protein intake from ordinary foods cannot be accomplished.

pro·tein·o·gen·ic (prō'ten-ō-jen'ik). SYN proteogenic.

pro·tein·oids (prō'tēn-oydz; prō'tē-in-oyds). Artificially synthesized heteropoly(amino acids).

pro·tein·o·sis (pro-tē-nō'sis, prō'tē-i-nō'sis). A state characterized by disordered protein formation and distribution, particularly as manifested by the deposition of abnormal proteins in tissues. [protein + G. *-osis,* condition]

lipoid p. [MIM*247100], a disturbance of lipid metabolism in which there are deposits of a protein-lipid complex on the oral tongue and sublingual and faucial areas, and translucent keratotic papillomatous eyelid lesions; autosomal recessive inheritance, frequently with intracranial calcifications. SYN hyalinasis cutis et mucosae, lipoidosis cutis et mucosae, Urbach-Wiethe disease.

pulmonary alveolar p., a chronic progressive lung disease of adults, characterized by alveolar accumulation of granular proteinaceous material that is PAS-positive and lipid rich, with little inflammatory cellular exudate; the cause is unknown.

pro·tein·u·ria (prō-tē-nū'rē-ă, prō'tē-i-nū'rē-ă). **1.** Presence of urinary protein in concentrations greater than 0.3 g in a 24-hour urine collection or in concentrations greater than 1 g/l (1+ to 2+